SATURDAY, MAY 9, 1874.

ORIGINAL LECTURES.

CLINICAL LECTURE.

OUR EYES—HOW TO TAKE CARE OF THEM.

Abstract of a Lecture delivered at the University of Pennsylvania,

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GENTLEMEN,—I purpose to-day occupying the remainder of the hour by directing your attention to an important branch of hygiene: the proper care of our eyes,—how we may best prevent disease of these important organs and prolong their period of usefulness. I need scarcely tell you that our eyes are the principal portals to the mind; that through their agency we acquire most of our ideas. Neither need I dwell upon their importance in the pursuit of our daily avocations, or the inestimable calamity caused by total loss of sight. An old German proverb tells us that "a blind man is a poor man;" and, although the self-evident truth of this statement comes home to us all, nevertheless the minor degrees of impairment of vision which diminish the capacity of the individual for continued work, or exclude him altogether from many profitable occupations, have not met with that attention, either from the mass of the profession or from the public, which they really deserve. In many cases these visual defects are acquired, being the result of improper use of the eyes; in others, they are caused by certain congenital anomalies in the organ itself.

My purpose to-day, gentlemen, is to give you, so far as the time will admit, some hygienic rules for the prevention of the first, and also the means for obviating the difficulties arising from the second.

In order to comprehend fully what I shall say, it may be necessary to recall to your minds certain facts in the physiology of vision. The eye may be considered, optically, as a dark chamber, with refracting media, the most important of which are the cornea and the crystalline lens, and with a receptive screen—the retina. As in the photographic camera, when the receptive screen is placed at the principal focus of its lens, parallel rays, or those from an infinite distance, are brought to a focus upon the screen, giving a distinct but inverted image of the object, so, in the emmetropic or optically normal eye, rays of light emanating from distant objects are, without effort, focused upon the rods and cones of the retina, giving, as in the case of the camera, a clear but inverted image of the object.

I say focused upon the *rods and cones* of the retina, for it is only here they can be perceived, it being the only perceptive layer of the retina; the other layers serve either to augment the intensity of the perception or to assist in conveying the impression to the central nervous system. If, in the camera, the receptive screen be placed either within or outside the principal focus of its lens, we will have no longer a distinct image of the object, but a disk of diffused light; and, in order to obtain a clear picture again, we must increase or diminish its power of refraction. If the screen be placed nearer to the lens than its principal focus, we must increase its power of refraction by adding to it an additional *convex* lens; or, if outside the principal focus, diminish its refractive power by the addition of a suitable *concave* lens.

All objects nearer than infinity no longer send parallel, but divergent, rays; so that the screen remaining at the principal focus of the camera lens, the object being placed nearer than infinity, we would no longer have a distinct image pictured upon the screen, but a disk of diffused light again; and, in order to secure an accurate image, must either move the screen farther from the lens than its principal focus, or, as in the other case, increase its power of refraction by an additional lens, which will so bend even divergent rays as to unite them at the principal focus.

The eye, gentlemen, like the camera, is subject, also, to this law of conjugate foci; but the retina cannot change its position as the object approaches it. The eye, however, does possess the power of increasing the convexity of its lens, and thereby its refractive power, so as still to focus rays of light from near objects, or divergent rays, upon the rods and cones. This is known as the power of accommodation of the eye, and is dependent upon the ciliary muscle. The eyes being simultaneously directed to the observed object, the nervous influence passes along the third pair to the ciliary muscle, causing it to contract, thereby relaxing the suspensory ligament of the lens. The elastic lens is now allowed to expand, increasing its convexity, and thus its power for bending rays of light.

This power of accommodation has its limit, which differs at different periods of life. Thus, in youth it ranges in the emmetropic eye from infinity up to three inches from the eye. This near point retreats from the eye with increasing years; gradually, however, so that it is not noticed usually until about the fortieth year. Indeed, for ordinary employments, the recedence of the near point is not even then noticed. If a fine silk thread, stretched taught, be held at the nearest point of distinct vision, you will find that at the tenth year this will be at 2¾″, at the twentieth year at 3¾″, at the thirtieth at 5″, at the fortieth at 8″,—at which time the phenomena of old sight (presbyopia) begin to be manifested. At first only by artificial light, or when reading unusually fine print, it is noticed that vision is somewhat defective. Later it becomes impossible to obtain a distinct view of ordinarily fine print without holding it inconveniently distant from the eye, or by supplementing the accommodation by convex glasses. This diminution of the accommodation is not so much due to a diminution of the power of the ciliary muscle as to the hardening and loss of elasticity of the lens itself. You may readily convince yourselves of this by removing the lens from any child's cadaver, and comparing it with that of

an adult over forty. On examination, you will see that the child's lens is colorless and soft, while that of the adult has become hard and its nucleus is of a straw-yellow color. With advancing years, then, the lens becomes less elastic, and more firm in its structure; so that, though the suspensory ligament may be relaxed, it refuses to expand as in youth, and the individual is said to be old-sighted, or presbyopic, and must henceforth aid his sluggish lens by spectacles. For this purpose convex spherical lenses are usually placed before the eye, and of sufficient strength to bring the near point up to a comfortable distance from the eye. The numbers, gentlemen, affixed to these glasses, represent in inches the principal focal distance of the lens. Thus, a glass which will give a clearly-defined image of the sun one inch behind its centre is taken as the standard ($\frac{1}{1}$); a lens which gives the picture at two inches has only half this refractive power, and is denominated $\frac{1}{2}$; one which gives it at eight inches, $\frac{1}{8}$, etc. A point at this distance from the lens is called its principal focus; that is to say, the point at which the lens is able to focus parallel rays of light. Suppose, however, that our source of light, instead of being at an infinite distance, is near to us, we will find that the focal point has receded from the lens, and just where its new focal point will be may be determined by subtracting the distance of the object from the lens from the principal focus of the lens. Suppose, for instance, that we have a convex lens whose principal focus is ten inches ($\frac{1}{10}$), and we wish to obtain with it a distinct image of a candle placed twenty inches in front of it, where shall we place our screen in order to get a distinct image of it? $\frac{1}{10}-\frac{1}{20}=\frac{1}{20}$, and we will, therefore, obtain a focus for the rays emitted by the candle at 20″ behind the lens.

There are also concave lenses, which cause the dispersion of parallel rays. The focus of such a lens is to be found by following the diverging rays back towards the source of light, and they are rated in the same way as convex lenses: *e.g.*, a concave glass of ten inches focus will render parallel rays as divergent as though they had come from a point ten inches in front of it. The strength of such a lens may readily be determined, also, by neutralizing it by a corresponding convex glass. If a weak convex or concave glass be moved rapidly before the eye, objects seen through it will appear to dance. If, however, such a concave glass is exactly neutralized by the apposition of a convex lens of equal power, objects seen through the combination, when moved rapidly in front of the eye, would seem stationary, as they do with a sheet of plate-glass under similar circumstances.

If I have made plain to you these laws,—viz., that the focus for parallel rays is always the same for the same glass, and that, in case of convex lenses, an approach of the object to the lens will cause a corresponding retreat of the image from its optical centre,—it will be obvious to you that, theoretically, an emmetropic eye could be focused for near objects either by lengthening its axis or by adding to it a suitable convex lens. From these considerations you will also gain an accurate idea of the change which must take place in the crystalline lens in the act of accommodation.

That the crystalline lens does, in fact, become more convex in accommodating for near objects, may be proved by the change in the relations of the images reflected from its surface,—as in the so-called catoptric test,—and has been demonstrated by this means. You will see the same principle illustrated by looking into the brightly-silvered garden globes of different sizes. As your reflected image varies in size with that of the globe, so as the convexity of the crystalline lens increases or diminishes with accommodation the image will be smaller or larger, at the same time changing its relative position. As I have already told you, this power of accommodation is resident in the ciliary muscle and the lens itself. This will be rendered clearer, perhaps, by reference to the diagram which I show you (see figure), in which one-half of the lens is represented in the act of accommodation. You will observe that the ciliary muscle, acting from its fixed point at the corneo-scleral junction, is swollen and shortened in the act of contraction, by which act the suspensory ligament is relaxed; and you see the elastic lens has become thicker or more convex, and its radius of curvature much shorter, than that of the other half, which is represented as being in a state of rest.

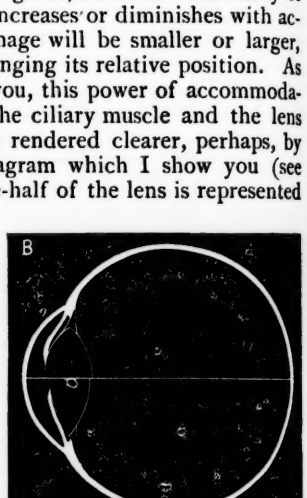

DIAGRAM SHOWING THE CHANGE OF LENS AND CILIARY MUSCLE IN ACCOMMODATION.—*a*, Ciliary muscle in state of rest; *b*, in contraction.

Another point of considerable clinical importance is the fact that our perception for objects has its limits. Objects, therefore, must have a determined size to be seen at a given distance. Observation has determined the fact that printed letters presenting an angle of five minutes can readily be discerned by a normal eye. Suppose our eye placed at the centre of a wheel the radius of which is twenty feet, it will be able to recognize any object on the circumference of the wheel which subtends an angle of five minutes. Snellen has utilized this fact for clinical purposes in the construction of letters which, for the distances at which they are intended to be seen, subtend an angle of five minutes, and the individual strokes of each letter of one minute.

An emmetropic or optically normal eye will, if there be no opacity of its refracting media or disease of its inner coats, be able to recognize Snellen No. XX. readily at twenty feet, and will by an effort of accommodation be able to read No. I. at one foot, and the intermediate type at corresponding distances.

There are many persons, however, in every community, whose eyes have not this optically perfect construction (emmetropia), and all such optically imperfect eyes are designated as ametropic.

We saw that the emmetropic eye was so constructed that parallel rays of light were without effort

focused upon the perceptive layer of the retina. Now, we may have two fundamental departures from the normal type, called, respectively, *hypermetropia* and *myopia*. In the first, the antero-posterior axis of the eye is too short in comparison with its refractive power,—*i.e.*, the retina is placed within the principal focus of the refractive media; consequently, the rays of light are intercepted before reaching the focal point, so that instead of a clearly-defined image upon the rods and cones there is a disk of diffused light, or a blurred and indistinct perception of the object. In the second condition, or myopia, refractive power of the eye is too great for its length of axis; consequently, the rays of light are focused in front of the retina, cross over, and, on reaching the rods and cones, give again a circle of diffusive, and consequently indistinct, vision. Such eyes are near-sighted, for they are able only to focus upon the retina rays of light which enter as *diverging* rays, while the first, or hypermetropic eye, in a state of rest, can focus only *converging* rays.

In myopia, in order to correct the optical defect and thus secure to the patient distant vision, we must place before his eye a glass which will make parallel rays of light thus divergent,—viz., a concave lens, the strength of the glass depending upon the degree of myopia: *e.g.*, if a person is able to read No. I. of Snellen types at 12″, which is the farthest point he can see it distinctly, and is unable to see No. II. at 24″, and can see No. II. distinctly only when approached to 12″, he has probably a myopia of $\frac{1}{12}$, which will be corrected for parallel rays or distant vision by a concave glass of twelve inches focus. With this glass, if his eye be otherwise healthy, he will be able to read Snellen XX. at twenty feet.

To the too short or hypermetropic eye, however, all objects must be indistinct, since in a state of rest it can focus on its retina only converging rays, and most objects in nature send to us either parallel or divergent rays; therefore, such an eye at rest must, in order to see objects distinctly, be aided by some optical contrivance which will cause even parallel rays to enter it as converging rays. We have seen, however, that the accommodation furnishes the emmetropic eye with the power of adding to itself an additional convex lens, and so focusing even diverging rays upon the retina. This power, indeed, is essential in all use of the emmetropic eye for near vision. In hypermetropia, however, it becomes necessary, even for distant vision, to use the accommodation if objects are to be seen distinctly. Such a person, you will observe, gentlemen, starts in life with a deficit which he is forced to make good by an effort of accommodation. Hence, in estimating the amount of nerve and muscular force required by him in accommodating for near objects, we must add this deficit to the amount employed by an emmetropic eye. This extra *load*, as it were, soon becomes an irksome one, and to its possessor proves one of the greatest evils of life. If able by his accommodation to overcome the anomaly and thus secure distinct vision, it is only to be tormented by ciliary neuralgia, injected and burning or itching eyelids, which may result in inflammatory conditions. With advancing years, as his lens becomes more dense and less elastic, he finds himself unable to secure by the utmost effort distinct vision, and so resigns himself to his fate, being content to get his impressions of surrounding objects from a misty and indistinct image.

These difficulties, painful and serious as they are, may be entirely obviated by the use of convex spectacles,—glasses of such strength as shall correct the optical defect.

Thus, gentlemen, I have called your attention to three varieties of eyes: the *emmetropic* or optically normal eye, which in a state of rest is able to focus parallel rays of light upon the retina; the *hypermetropic* or "long-sighted" eye, which is too short in its antero-posterior axis, so that parallel rays are intercepted before their focal point; and the *myopic* or short-sighted eye, which is too long in its antero-posterior axis, allowing the rays to reach their focal point and cross over before reaching the retina.

In my next lecture I purpose to show you how many of us, starting in life with normal eyes, by neglect of proper hygienic measures, and by improper use of them, gradually acquire defects of sight which become serious hindrances to us in the pursuit of our ordinary occupations; and, further, how we may best guard against and prevent the development of such abnormal conditions.

ORIGINAL COMMUNICATIONS.

OBSERVATIONS ON THE NORMAL PULSE, RESPIRATION, AND TEMPERATURE OF PUERPERAL WOMEN.

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THE importance of noting variations in temperature in physiological and pathological conditions or processes is now so well recognized, that any arguments adduced to prove it would be superfluous. The pulse and respiration have been noted from the earliest ages in the history of medicine, as giving information invaluable to the physician; and that a new factor has entered into the study of disease, affording such constant and certain evidence of its progress or decline, is reason for gratulation. The thermometer, as a means of physical diagnosis, is second to none of those which have lifted the science of medicine far above the plane it occupied but a score of years ago.

It was with such a belief in its revelations and predictions that I began and prosecuted a series of observations upon the temperature of lying-in women. These were made in the obstetrical wards of the Philadelphia Hospital, and extended over a period of three months, beginning in July and ending in October. The wards in which they were made had been unoccupied for months, had been thoroughly cleansed, and, being situated in a building entirely separated from the surgical wards, were removed from all danger of infection by them. They were also in the fourth story of the building, abundantly supplied with light, and well ventilated.

Hence it was that the circumstances under which these observations were made were of the most favorable character, and it is a noteworthy fact that there was not a single case of puerperal fever in the wards during the term, although there were the usual number of instrumental cases of delivery. In a hospital of such size, and in obstetrical wards where three hundred patients are confined annually, possibly no more auspicious time could have been selected for procuring such trustworthy results, my object being to ascertain the *normal* temperature, pulse, and respiration of the lying-in women.

To secure this result I have rejected all cases in which delivery was effected by means of instruments, those in which there was post-partum hemorrhage, and patients suffering from any intercurrent disease, as diarrhœa, malaria, phthisis, etc. I have rejected, also, all those who did not suckle their children. Our patients generally are strong, healthy women, averaging about twenty-four years of age, the greater part of them being domestics. I have selected only such cases, and from these excluded also, besides the above classes, all who had fissured nipples, or any other local lesion which I thought might mar the accuracy of my observations.

Adopting such a rigid course of pruning, I found my cases, over fifty in number, on which I had taken observations, diminishing until I had but twenty-four which I could call *positively normal*, or those into which no pathological element whatever might be found to enter. I should also say that in every case I made the observations myself. Those who have had any experience in hospital practice can realize how unsafe it is to trust to ward nurses for accurate information on questions of such nature in single instances; much more so, then, when a long period of time is necessary to complete an investigation.

Fahrenheit's thermometers were used, and the temperature in all cases taken in the axilla, ten minutes being allowed for each observation. To insure accuracy, which is a *sine qua non* in observations of this character, my thermometers were all compared with a standard thermometer, the value of each being carefully noted.

The pulse, respiration, and temperature were each taken twice daily, at 9 A.M. and 8 P.M., two and a half hours after the morning and evening meals. In this manner the increase in temperature due to digestion was avoided; also the minimum daily temperature, which, according to Lichtenfels and Frölich, occurs between 6 and 8 o'clock A.M. and between 10 P.M. and 1 A.M.; also the maximum daily temperature, which, according to the same authorities, is found between 4 and 5 o'clock P.M. My observations in every case were begun on the morning or evening immediately following delivery, and continued for nine days, it being customary in the hospital for patients to be kept in bed for that period after labor. Every possible attention was observed which it was thought might conduce to the welfare of the patients. No exertion whatever, on their part, was permitted after delivery. Each patient was allowed to remain an hour after parturition upon the "lying-in bed," which, resting on castors, was then wheeled into the ward and alongside the bed intended for her, and she was then carefully lifted into it. Napkins were changed frequently each day, and a solution containing the permanganate of potassium freely used. No alcoholic stimulants were allowed. The diet consisted of milk, eggs, beef-tea, and mutton, with coffee or tea, and bread, toasted, or plain with butter.

I have arranged all my results in tabular form, so as to show at a glance (together with the age and pregnancy)—

1. The pulse, respiration, and temperature of each patient for the morning and evening of each day; 2, the average morning pulse, respiration, and temperature of each patient; 3, the average evening pulse, respiration, and temperature of each patient; 4, the average daily pulse, respiration, and temperature of each patient; 5, the average morning pulse, respiration, and temperature of the whole number for each day; 6, the average evening pulse, respiration, and temperature of the whole number for each day; 7, the average daily pulse, respiration, and temperature of the whole number for each day; 8, the average morning pulse, respiration, and temperature of the whole number for the whole time; 9, the average evening pulse, respiration, and temperature of the whole number for the whole time; 10, the average daily pulse, respiration, and temperature of the whole number for the whole time.

I had hoped to present with these tables a general review of all the published observations of a similar nature which have been made abroad. These are, however, few in number, and the major part of them are untranslated, and found only on the shelves of the Continental libraries. As I expect to have access to these soon, I shall then be able to review the whole subject satisfactorily. I have presented my tables complete, for I am sure that after they have been examined my deductions can be much more readily comprehended. I was anxious, too, that every step I had taken in reaching my conclusions should be perfectly understood, for it will strike the mind of the reader that some of them do not support the general if not universal opinion of the profession in regard to the so-called "milk fever" attending the establishment of the milk secretion, which occurs generally from thirty-six to seventy-two hours after delivery, and is supposed to give rise to an increase in temperature of one, two, or even more degrees.

The belief that such a rise in temperature does occur has been accepted by medical men for centuries: so thoroughly, indeed, has the mind of the profession been imbued with this idea that it would be deemed rash in any one to question it, unless he were supported by an array of facts which could not be ignored.

Attending this milk fever, and even more marked than the rise in temperature, has been a supposed increase in the frequency of the pulse, so that a pulse of 90 or 100 per minute is generally considered as indicative of nothing more than a process altogether physiological.

I have selected twelve cases complicated by fissured nipples. These I have tabulated also as the others, and the results from them I have placed alongside those obtained from normal cases. An

increase is noticed in the frequency of the pulse; the respirations are more rapid, and the temperature is found to be exactly one degree higher. The treatment of these patients was very similar to that pursued in other cases. A febrifuge was occasionally prescribed, and an enema or saline cathartic given as indicated, while the usual local application was the fluid extract of Pinus Canadensis.

The conclusions fairly deducible from these observations are,—

1. That the normal temperature of the puerperal woman is only about .6° F. higher than that of the healthy human being, if we accept the statement of Wunderlich, that the mean normal temperature is 98.6° F. (=37° C.).

2. That the normal pulse of the puerperal woman is not more frequent than that found under ordinary conditions in a state of perfect health.

3. That the number of respirations is increased if the statement of physiologists be received, that the number of respirations of the healthy woman ranges from 18 to 20 per minute.

4. That the generally received opinion that the secretion of milk is attended by an increase in temperature of one or more degrees, and an increase in the frequency of the pulse of 10 or 12 beats per minute, is erroneous.

5. That a temperature of 100° F. (=37.77° C.) or a pulse of 100 per minute in the lying-in woman is indicative of some pathological process which it behooves the accoucheur to discover at once, in order that proper measures may be taken to arrest its development and remove the evil.

The following tables contain the records of the original observations upon which the above conclusions are founded. On account of the importance of the subject, they are here appended in full, in order that the grounds of the conclusions reached may be examined by any one sufficiently interested to perform the labor of so doing.

Observations on the Normal Pulse, Respiration, and Temperature of Puerperal Women.

TABLE I.

Case.	Age.	Pregnancy.	Pulse. Respiration. Temperature.	First Day. M.	First Day. E.	Second Day. M.	Second Day. E.	Third Day. M.	Third Day. E.	Fourth Day. M.	Fourth Day. E.	Fifth Day. M.	Fifth Day. E.	Sixth Day. M.	Sixth Day. E.	Seventh Day. M.	Seventh Day. E.	Eighth Day. M.	Eighth Day. E.	Ninth Day. M.	Ninth Day. E.	Av. morn. P. R. and T. of each.	Av. even. P. R. and T. of each.	Av. daily P. R. and T. of each.
I.	19	1	P.	84	80	76	76	80	64	76	72	64	64	70	60	56	64	64	66	64	60	70	67	68
			R.	28	25	26	24	24	28	20	24	22	20	24	24	23	21	24	23	24	23	24	23	23
			T.	99.6	98.8	98.4	98.4	98.6	99.4	99	99 3	99	99	99	99	99.5	99.4	99.2	99.3	99.3	99.7	99	99	99
II.	23	1	P.	76	60	64	60	68	64	64	60	64	64	56	64	56	56	60	64	72	64	64	62	63
			R.	30	25	30	24	24	28	24	24	28	30	28	28	24	27	24	28	26	28	26	27	26
			T.	101	98.4	98	99	98.3	100	99.2	99	98.2	99.4	97.7	98.6	98.3	98.7	98	99	98.2	99.4	98.5	99	98.7
III.	20	1	P.	72	86	76	98	80	94	80	88	88	84	88	82	88	76	76	76	92	76	82	84	83
			R.	24	27	20	32	24	28	24	28	24	20	24	24	20	28	20	22	24	28	23	26	24
			T.	100.2	100	99.3	99.6	98	100	100.3	99.7	99 8	100.5	99.4	99.4	99.6	100	98.2	97.8	100.3	99	99.5	99.6	99.5
IV.	24	3	P.		76	76	88	78	72	96	80	88	82	76	74	80	86	76	80	81	78	81	79	80
			R.		20	22	24	22	20	26	20	20	30	24	20	20	28	24	25	26	22	23	24	23
			T.		100	98.4	98.4	99	99.2	99.2	98.3	98.6	99.7	98.2	98	99.1	99	98.6	99.8	98.8	98.2	98.7	99	98.8
V.	23	4	P.	66	60	76	76	72		84		80	84	76	68	70	64	64	64	72	60	72	69	70
			R.	16	20	20	28	24		24		25	28	25	24	22	24	24	22	26	26	23	24	23
			T.	98 7	99	98.2	99.7	98.8	100.2	101.7		99	99.6	99.6	99.2	99 2	98.7	98 6	99.3	98.8	99	99.2	99.5	99.3
VI.	26	5	P.		88	66	80	92	100	78	84	90	80	84	76	90	80	84	70	92	64	84	80	82
			R.		25	22	16	20	20	20	28	24	24	20	22	20	20	20	20	18	18	20	21	20
			T.		100		98.8	99	100.4	99.7	100	99	99.4	99	100.3	100	99 4	98.8	98.8	99.6	98.4	99.3	99.5	99.4
VII.	16	1	P.		60	64	68	60	68	64	56	80	76	78	84	72	64	80	74			71	69	70
			R.		25	16	20	16	20	25	22	28	20	26	28	22	28	24	23			22	24	23
			T.		99	99.6	98.6	98	98.6	99	97.2	99	99.4	99.4	101	98.8	98.4	98.8	98.8			99.5	99.1	99.3
VIII.	19	1	P.		76	72	76	76	88	84	66	72	72	72	76	64	62	60	68	56	60	69	67	68
			R.		23	25	24	30	28	28	24	22	23	24	24	23	24	18	20	21	20	24	23	23
			T.		99.4	98.4	100	100.2	100.6	100	100	100.2	99.3	99.4	99	99.6	99	98.2	99	100.3	99.5	99.3	99.5	99.4
IX.	25	1	P.		68	64	80	64	80	81	96	73	88	78	72	72	68	76	72	78	80	74	78	78
			R.		30	20	25	20	20	26	18	20	24	24	22	22	22	28	22	24	20	23	23	23
			T.		100	98 8	98.8	99	99	99.2	100	98.3	99.2	98.8	99	98.3	97.6	98.6	98.8	98.2		98.6	99	98.8
X.	33	5	P.		64	76	72	68	72	68	76	76	78	76	64	76	72	72	64	68	70	72	70	71
			R.		24	20	22	20	16	18		20	21	20	24	20	22	20	20	20	22	20	22	21
			T.		99.2	99.4	97.4	98.7	99.2	99.3	99	98	99.7	99.2	99	99.3	99.7	99	98.6	98.6	99	98.9	99	98.9
XI.	21	1	P.		72	88	64	64	68	68	68	54	56	88	52	84	56	60	68	54	76	70	64	67
			R.		32	22	22	28	24	22	26	24	20	20	20	17	24	20	24	16	20	21	24	22
			T.		100.4	99	100	99	99.7	100	99.7	99.4	98.8	99.6	99.7	100	99	98.8	99	98.4	99.2	99.3	99.5	99.4
XII.	19	1	P.	56	76	60	68	60	60	68	60	72	68	78	60	60	56	60	48	56	60	63	62	62
			R.	24	21	20	20	20	22	24	24	22	20	18	16	18	22	17	20	22	20	20	21	20
			T.	98	99.3	97.6	97.8	98.6	98.4	98.4	99	98.6	99.2	99.4	98.2	99.4	99.6	98	99.2	99.4	100.4	98.6	99	98.8
Average morn. and even. P. R. and T. of the whole number for each day.			P.	71	72	71	75	72	75	76	73	75	75	76	69	72	67	69	68	71	68	73	71	72
			R.	24	25	23	23	23	23	23	23	23	23	23	23	21	24	22	23	22	22	23	23	23
			T.	99.5	99.5	98.6	98.9	98.8	99.6	99.6	99.2	98.9	99.4	99	99.1	99.3	99	98.6	98.9	99.1	99.1	99	99.2	99.1
Average P. R. and T. of the whole number for each day.			P.	71		73		73		74		75		72		69		68		69		72		
			R.	24		23		23		23		23		23		22		22		22		23		
			T.	99.5		98.7		99.2		99.4		99.1		99		99.1		98.7		99.1		99.1		

	Pulse.	Resp.	Temp.
Average morning Pulse, Respiration, and Temperature of the whole number	73	23	99
" evening " " " " "	71	23	99.2
" daily " " " " "	72	23	99.1

TABLE II.

Case.	Age.	Pregnancy.	Pulse. Respiration. Temperature.	First Day. M.	First Day. E.	Second Day. M.	Second Day. E.	Third Day. M.	Third Day. E.	Fourth Day. M.	Fourth Day. E.	Fifth Day. M.	Fifth Day. E.	Sixth Day. M.	Sixth Day. E.	Seventh Day. M.	Seventh Day. E.	Eighth Day. M.	Eighth Day. E.	Ninth Day. M.	Ninth Day. E.	Av. morn. P. R. and T. of each.	Av. even. P. R. and T. of each.	Av. daily P. R. and T. of each.
XIII	18	1	P.	64	68	72	72	76	72	60	92	84	88	64	94	80	70	72	52	76	68	72	73	73
			R.	21	25	20	24	24	24	20	28	21	28	16	36	28	28	20	22	20	29	21	27	24
			T.	100	99	98.8	99	99.4	99	98.2	99.4	99	99	98.7	99.3	99	99.2	99.2	98.2	98	98.7	98.9	99	98.9
XIV	34	4	P.	92	88	80	80	88	84	80	80	96	96	96	80	96	84	86	92	92	82	89	86	87
			R.	20	20	16	22	20	22	20	20	27	20	24	21	20	24	20	20	24	20	21	21	21
			T.	99.4	99.4	98	98.6	98.6	99.4		99	98.3	99	99.3	98.6	99.7	99	100	99	99	99	99	99	99
XV	30	1	P.	88	100	84	104	84	80	80	72	76	80	76	72	72	64	64	72	72	60	77	78	77
			R.	18	20	16	24	22	24	20	22	20	24	22	24	18	20	20	20	20	20	19	22	20
			T.	100	100	99.4	101	99.4	99.4	98.3	99.3	98 8	99	99.6	98.7	98.6	98.8	99	99	97.8	99.8	99	99.4	99.2
XVI	25	1	P.	64	72	62	72	68	92	76	110	76	68	84	68	76	76	64	64	68	68	71	77	74
			R.	20	26	20	24	24	24	24	26	22	20	22	26	24	30	24	24	24	28	23	25	24
			T.	100	99	99	99.8	99.3	98.7	100.2	101.3	99.8	98.2	99.2	100.1	99.6	100	99.7	99.4	99	99.3	99.5	99.5	99.5
XVII	20	1	P.		92	76	80	72	80	70	80	72	80	68	80	72	76	84	72	92	80	76	81	78
			R.		24	20	18	18	22	22	24	22	22	24	20	17	22	21	20	19	20	20	21	20
			T.		100	98	99	98.4	100	97 8	99.3	97.8	99.3	98	99.3	97.5	99	99.2	98.8	99.4	98.8	98.3	99 3	98.3
XVIII	30	2	P.	64	66	76	73	70	72	76	88	86	76	80	76	68	70	72	68	80	84	75	75	75
			R.	24	26	20	20	24	24	26	22	24	24	24	24	20	20	24	24	20	24	23	23	23
			T.	99.2	98.3	98	98	98.5	98	100.7	99.8	99.4	98.3	98.3	98.2	98.8	98.6	98.8	99	98.5	98.6	98.9	98.5	98.7
XIX	20	1	P.	68	84	82	84	74	94	92	84	76	82	72	72	76	88	80	88	80	92	77	85	81
			R.	28	20	18	20	16	17	24	16	16	16	15	22	22	16	20	24	20	20	20	19	19
			T.	99.2	99.3	99.8	99.2	99	100.5	99.2	100	100.2	100.2	100	99.9	100.4	100.4	99.3	100		100.2	99.6	100	99.8
XX	35	1	P.		76	68	72	72	78	110	84	76	72	66	64	76	64	80	96	76	76	78	76	77
			R.		26	26	22	22	26	40	28	28	28	22	24	26	22	24	26	28	28	27	26	26
			T.		99.8	99.3	100	100.4	101.2	103.2	100	99.2	100.7	98.2	99.4	99.2	99.8	99.4		99.4	98.8	99.8	100	99.9
XXI	17	1	P.	52	56	56	76	56	60	68	56	72	64	76	72	90	72	64	80	64	60	66	66	66
			R.	32	20	26	28	24	24	28	28	26	22	28	24	28	28	22	25	28	18	27	24	25
			T.	100.2	101.2	99.6	99.6	99.6	100.2	99 2	100.2	99.3	100	101	100.6	100.4	100.2	99.8	98.3	99	98.4	99.9	99.9	99.9
XXII	18	1	P.	88	76	80	82	72	70	84	70	84	72	68	64	64	60	64	64	64	64	72	69	70
			R.	26	24	24	26	24	28	28	32	24	30	28	24	28	20	24	25	24	25	26	28	27
			T.	100.5	99.5	99.5	99	99 3	100.4	100.4	102	100	101.4	98.8	99.5	98.5		99.4	99.4	99.4	99.6	99.5	100.1	99.8
XXIII	35	2	P.	76	84	76	76	74	80	68	64	76	72	70	60	60	56	72	72	80		72	70	71
			R.	23	20	25	24	21	28	26	28	23	26	22	24	24	24	24	24	20		23	25	24
			T.	99	98.4	99.4	97.8	99.9	100.2	98.6	99.2	98.6	98.2	98.8	98.2	99	98.6	99.2	97.2	99		99	98.5	98.7
XXIV	20	1	P.		64	72	68	72	64	64	76	64	60	56	52	56	68	60	62	64	52	70	63	66
			R.		18	18	24	20	24	20	22	20	20	20	22	20	24	20	24	24	20	20	22	21
			T.		99.2	98.8	101	100.2	101.8	98	100.6	97	99.6	97.6	99.3	98.6	100.2	99.7	99.2	98.8	99.6	98.6	100	99.3
Average morning and evening P. R. and T. of whole number for each day.			P.	73	77	74	78	73	77	77	79	78	76	73	71	74	71	72	73	76	71	75	75	75
			R.	24	22	21	23	22	24	25	25	23	23	22	24	23	23	22	23	23	23	22	24	23
			T.	99.7	99.4	99	99.3	99.3	99.9	99.4	99.2	99	99.4	98 9	99.3	99.1	99.4	99.4	98.9	98.8	99.2	99.2	99.4	99.3
Average P. R. and T. of whole number for each day.			P.	75		76		75		78		77		72		72		72		73		75		
			R.	23		22		23		25		23		23		23		22		23		23		
			T.	99.5		99.1		99.6		99.3		99.2		99.1		99.2		99.6		99		99.3		

	Pulse.	Resp.	Temp.
Average morning Pulse, Respiration, and Temperature of the whole number	75	22	99.2
" evening " " " " " "	75	24	99.4
" daily " " " " " "	75	23	99.3

Deductions from Tables I. and II.

	Pulse. Respiration. Temperature.	First Day. M.	First Day. E.	Second Day. M.	Second Day. E.	Third Day. M.	Third Day. E.	Fourth Day. M.	Fourth Day. E.	Fifth Day. M.	Fifth Day. E.	Sixth Day. M.	Sixth Day. E.	Seventh Day. M.	Seventh Day. E.	Eighth Day. M.	Eighth Day. E.	Ninth Day. M.	Ninth Day. E.	Av. morn. P. R. and T.	Av. even. P. R. and T.	Av. daily P. R. and T.
Average morn. and even. P. R. and T. of the whole number, deduced from Tables I. and II.	P.	72	74	72	76	72	76	76	76	76	75	74	70	73	69	70	70	73	69	74	73	73
	R.	24	23	22	23	22	23	24	24	23	23	22	23	22	23	22	23	22	22	22	23	23
	T.	99.6	99.4	98.8	99.1	99	99.7	99.5	99.2	99	99.4	99	99.2	99.2	99.2	99	98.9	99	99.1	99.1	99.3	99.2
Average P. R. and T. of the whole number for each day, deduced from both Tables.	P.	73		74		74		76		76		72		71		70		71		73		
	R.	23		22		23		24		23		23		22		22		22		23		
	T.	99.5		98.9		99.4		99.3		99.1		99		99.1		99.1		99		99.2		

	Pulse.	Resp.	Temp.
Average Pulse, Respiration, and Temperature of the entire number of Cases for the time observed, deduced from Tables I. and II.	73	23	99.2

Observations on the Pulse, Respiration, and Temperature of Puerperal Women with Sore Nipples.

TABLE III.

Case.	Age.	Pregnancy.	Pulse. Respiration. Temperature.	First Day. M.	First Day. E.	Second Day. M.	Second Day. E.	Third Day. M.	Third Day. E.	Fourth Day. M.	Fourth Day. E.	Fifth Day. M.	Fifth Day. E.	Sixth Day. M.	Sixth Day. E.	Seventh Day. M.	Seventh Day. E.	Eighth Day. M.	Eighth Day. E.	Ninth Day. M.	Ninth Day. E.	Av. morn. P. R. and T. of each.	Av. even. P. R. and T. of each.	Av. daily P. R. and T. of each.
I.	30		P.			52	52	60	56	56	72	64	58	60	60	60	60	60	64	80	84	61	63	62
			R.			23	22	16	20	22	24	23	26	20	24	26	22	24	28	24	24	22	24	23
			T.		99.2	99	99.2	99.6	99.3	99.2		99.2	100.7	99	100.2	98.3	100.2	98.7	101.6	100.2	101.4	99.2	100.2	99.7
II.	20		P.	62	72	64	80	76	100	96	80	92	84	88	84	74	79	80	80	84	76	79	81	80
			R.	28	26	28	24	28	32	32	28	26	26	28	28	32	29	34	32	36	32	30	29	29
			T.	98 6	100.7	98.3	100	100.8	100.6	101.2	100.6	100	100.6	99.8	101	99	99	99	98.2	99	99	99.5	100	99.5
III.	20		P.	94	100	84	84	76	84	78	84	84	76	88	84	84	80	100	88	100	100	86	87	86
			R.	30	28	24	24	24	28	28	28	28	28	28	20	20	26	24	17	28	28	26	25	25
			T.	102	100.2	98.7	99 3	98.8	99.7	99.8	101	100	100	99.2	100.2	99.3	100	99.2	97.9		100	99.6	99.8	99.7
IV.	26		P.		88	84	92	70	72	80	84	72	74	70	70	60	60	100	84	88	84	78	78	78
			R.		26	24	32	24	20	28	28	21	20	21	21	23	24	24	21	28	26	24	24	24
			T.		99.4	100.2	101	98.7	100.2	99.8	99.7	99.4	99.6	99	99.2	99.2	99.2	102.8	99.4	101	100.2	100	99.8	99.9
V.	21		P.		72	72	92	72	84	70	88	84	84	80	81	80	84	72	80		80	76	83	79
			R.		24	25	28	24	20	21	30	32	20	28	24	30	21	32	28		32	27	25	26
			T.		100.6	99.9	98.3	98.3	100.4	98.8	101.3	99.4	101.8	99.8	100.3	100.2	100	99	99.7		99.7	99.3	100.3	99.8
VI.	25		P.	80	88	108	100	96	104		84	72	76	76	70	76	56	80	58	64	72	81	79	80
			R.	24	24	25	24	24	26		23	21	22	20	24	24	24	20	20	22	16	22	22	22
			T.	99.8	101	102	100.7	101	102 8	99.7	101.7	98.7	99.8	98.8	99.2	99.2	99	99.2	100	98.8	100	99.7	100.5	99.8
VII.	20		P.	82	76	76	78	76	72	76	88	90	84	76	84	60	64	56	56	72	66	74	74	74
			R.	38	32	24	32	32	24	24	28	27	24	36	25	20	28	20	20	27	27	28	27	27
			T.	99.9	102	100.2	100.8	99.5	100.8	100.2	101.8	100.6	100.6	100.6	100.4	99.7	100	99.7	99	100.2	100.3	100	100.6	100.3
VIII.	25		P.		88	100	84	76	76	80	96	96	108	88	100	88	96	96	88	108	72	91	89	90
			R.		28	25	28	25	24	20	24	24	28	28	32	28		24	24	25	29	25	27	26
			T.	99.2		100.2	99.8	100		99.6	101.3	100.2	101.7	99.2	101	100.2		98.8	99.3	99.2	98.3	99.6	100.2	99.9
IX.	26		P.		66	78	86	84	90	96	92	104	104	100	100	100	100	100	100	110	104	96	94	95
			R.		36	22	23	24	94	25	22	28	26	20	27	21	24	25	24	40	36	27	27	27
			T.		101.8	101	100.2	100.4	98.8	100	100.6	102	102.8	100.2	100.2	100.4	100.6	100.8	101.6	102.8	104.2	101	101	101
X.	32		P.		76	82	60	72	96	84	80	76	86	92	84	68	68	70	68	76	64	77	76	76.5
			R.		21	18	20	24	24	24	22	20	28	24	28	20	22	18	20	20	26	21	23	22
			T.		99 7	98.6	98.7	99.7	103.6	103.3	102.8	100.4	104.4	103.3	101.7	99.6	100.4	99.8	100	99.7	99.8	100.5	101.2	101.5
XI.	20		P.	88	88	88	76	120	112	96	88	92	92	72	92	100	116	92				95	94	94.5
			R.	16	25	17	18	21	25	22	24	24	24	26	24	28	28	28				23	24	23.5
			T.	99.4	100	98.7	98.7	103.3	103.6	99.8	100.8	99	99.7	99.6	100.3	102.8	102.8	100				102	100.7	100.8
XII.	19		P.	64	72	72	72	76	84	76	100	84		92	80	84	72	78	92	92	76	80	81	80
			R.	24	18	22	22	26	30	28	30	32		24	30	24	28	28	24	28	20	26	25	25
			T.	99.4	99.4	99.3	100	100	99.4	100	100.8	100		99	101	100	100.6	99.8	101	100	100.3	99.7	100.3	100
Average morn. and even. P. R. and T. of the whole number for each day.			P.	78	72	80	80	80	86	81	85	84	84	81	82	79	76	84	78	87	80	81	80	80
			R.	26	26	23	24	25	26	25	26	25	25	25	25	25	25	25	24	29	27	26	26	26
			T.	99	100.4	99.9	99.7	100	101	100	101	100	101	99.7	100.3	99.8	100.2	99.9	99.9	100.1	100.3	99.9	100.5	100.2
Average P. R. and T. of the whole number for each day.			P.	75		80		83		83		84		81		77		81		83		81		
			R.	26		23		25		25		25		25		25		24		28		26		
			T.	99.7		99.8		100.5		100.5		100.5		100		100		99.9		100.2		100.2		

	Pulse.	Resp.	Temp.
Average morning Pulse, Respiration, and Temperature of the whole number	81	26	99.9
" evening " " " " "	80	26	100.5
" daily " " " " "	80	26	100.2

Observations on the Pulse, Respiration, and Temperature of Puerperal Women with Sore Nipples. Deductions from Table III.

	Pulse. Respiration. Temperature.	First Day. M.	First Day. E.	Second Day. M.	Second Day. E.	Third Day. M.	Third Day. E.	Fourth Day. M.	Fourth Day. E.	Fifth Day. M.	Fifth Day. E.	Sixth Day. M.	Sixth Day. E.	Seventh Day. M.	Seventh Day. E.	Eighth Day. M.	Eighth Day. E.	Ninth Day. M.	Ninth Day. E.	Av. morn. P. R. and T.	Av. even. P. R. and T.	Av. daily P. R. and T.
Average morn. and even. P. R. and T. of the whole number of Cases, deduced from Table III.	P.	78	72	80	80	80	86	81	85	84	84	81	82	79	76	84	78	87	80	81	80	80
	R.	26	26	23	24	25	26	25	26	25	25	25	25	25	25	25	24	29	27	26	26	26
	T.	99	100.4	99.9	99.7	100	101	100	101	100	101	99.7	100.3	99.8	100.2	99.9	99.9	100.1	100.3	99.9	100.5	100.2
Average P. R. and T. of the whole number of Cases for each day, deduced from Table III.	P.	75		80		83		83		84		81		77		81		83		80		
	R.	26		23		25		25		25		25		25		24		28		26		
	T.	99.7		99.8		100.5		100.5		100.5		100		100		99.9		100.2		100.2		

	Pulse.	Resp.	Temp.
Average Pulse, Respiration, and Temperature of the entire number of Cases for the time observed, deduced from Table III.	80	26	100.2

TRANSLATIONS.

PULSATION OF THE SUBCLAVIAN AS A SIGN OF SUPERIOR DILATATION OF THE AORTA.—Contrary to what is observed under normal conditions, there may be noticed in certain cardiac affections peculiar pulsations in the carotid region, and at the base of the neck. That these pulsations originate in the passage of the blood-current through a large artery—the subclavian—may be shown in two ways: first, by placing the finger back of and below the tubercle of the scalenus anticus muscle, when this artery will not be found in its usual position; then by making compression over the seat of pulsation, when the pulse at the wrist is affected. If on making this compression over the misplaced subclavian the arterial walls are lightly impressed by the finger, a double vibratory tremor may be remarked. The first and most intense part of this is systolic, and is evidently produced by the rapid centrifugal passage of the blood-current. The second, of variable intensity, is caused by the return of the blood towards the heart; it is sometimes wanting.

Auscultation over the seat of pulsation demonstrates the existence of a double blowing murmur, evidently connected with the vibratory tremor above mentioned. The second part of this murmur is wanting when the second part of the tremor is absent.

In a number of autopsies of such cases, the existence of aneurism affecting the superior wall of the aorta was ascertained. In these cases the subclavian is found displaced, and overlapping to a certain degree the omo-hyoid muscle. It is at first uncovered behind the clavicle, and then becomes more superficial. Finally, it is sinuous,—that is, too long for its channel.

The double tremor and murmur appear to be independent of any abnormal condition of the aortic orifice. The fact appears to be that the walls of the dilatation, true or aneurismal, having lost their elasticity, allow themselves to become distended under the influence of the ventricular wave at the same time as the arterial system. But, owing to the impulsive force of the heart having been exhausted by the inertia of these walls, the arterial tension is lessened.

The diastolic reflux of a part of the contained blood results of necessity from this unequal subdivision of the blood-tension. It is the centripetal reflux which determines the diastolic murmur. The displacement of the subclavian is evidently due to elevation of the superior wall of the aorta. It is shown in the shortening of the course of the carotid and other vessels given off, causing them to become sinuous, and thus to give rise to the pulsations noted. If the aortic dilatation is equal over all parts whence the great vessels are given off, the various phenomena alluded to will be observed equally on both sides of the neck. If, on the contrary, it is greater near the aortic origin, or on the other extreme of the arch, pulsation, etc., will only be observed on the affected side.

We have here, then, a valuable aid in the diagnosis and prognosis of superior aortic aneurism. For not only may the extent and position of the enlargement be ascertained approximately, but if in the progress of the case the vibration and murmur should disappear we may hope that the aneurismal pouch is being filled with clots.—*Archives Gén.* (by A. Fauvre). A. V. H.

SECTION OF THE BUCCAL NERVE THROUGH THE MOUTH.—In a note read before the Académie de Médecine (*Archives Gén.*, Feb. 1874), Dr. Panas, after a résumé of previous operations, gives the following as performed by himself:

The patient, unanæsthetized, being seated in a good light, the head is firmly fixed by an assistant, who also keeps the jaws separated by placing his fingers, properly protected, between them on the sound side. On the other side the commissure of the lips is held back by an instrument so that a good view is obtained of the inner side of the cheek, and the operator, using his finger as a guide, makes an incision parallel to the edge of the maxilla, beginning on a level with the middle of the superior molar, and extending to a point opposite the crown of the last inferior molar. This incision, which is from two-thirds of an inch to an inch in length, only extends through the mucous membrane, and exposes the deep fibres of the buccinator without loss of blood. The operation is then continued by short and careful strokes of the knife, or by curved scissors; the only vessels liable to be cut being the buccal nerve and the artery, which lies in juxtaposition to the nerve, and which may be readily closed by torsion. The buccinator being divided, the nerve may be searched for by means of a strabismus hook. It may in general be readily found at the bottom of the wound and in connection with the buccal artery; when hooked on the instrument it causes an acute and characteristic paroxysm of pain, and, being identified, may be excised as desired.

The advantages of the operation, according to Dr. P., may be briefly stated to be comprised in the absence of danger from wounding the facial artery or nerve or the duct of Steno. Even should this duct be wounded, the inconvenience of salivary fistula is avoided, since the opening would be within the mouth.

In the case operated upon in this manner by Dr. P., but little pain followed the operation. Cicatrization of the wound occurred on the sixth day, and the neuralgia, which had formerly been very severe, disappeared entirely. A. V. H.

INFLUENCE OF PREGNANCY UPON DISEASES OF THE HEART.—In a clinical lecture reported in *L'Union Médicale*, January 27, 1874, M. Sée offers the following conclusions on this subject. As regards the prognosis of heart-diseases in connection with pregnancy, much depends on the lesion which may exist in any given case.

From this point of view M. Sée divides heart-diseases into several categories. *Aortic narrowing* is an affection of old age, and out of question in these cases. *Aortic insufficiency* is not uncommon among young girls and women. This is not, however, dangerous in pregnancy when uncomplicated by functional troubles, and M. Sée cites six cases coming under his notice, in which a number of pregnancies had terminated under these circumstances with entire safety to mother and child. He concludes it unnecessary to interdict marriage under similar circumstances.

Mitral affections are much more grave, but these differ considerably as to the prognosis they give rise to. In *mitral narrowing*, provided there is no pulmonary congestion, no œdema of the inferior members, no cerebral emboli,—if, in a word, the disease is characterized only by a presystolic bellows-murmur, although this may be most intense, and even accompanied by whining (piaulement),—in this case the narrowing cannot exercise any evil influence on the course of pregnancy. M. Sée gives here several interesting cases in illustration, and concludes as follows:

"Although there is nothing to interdict marriage in cases of mitral narrowing, yet it is quite different in *mitral insufficiency;* above all when there are congestive accidents on the part of the lungs.

"In such cases it is necessary to advise against marriage, since pregnancy would always be dangerous."

A. V. H.

PHILADELPHIA
MEDICAL TIMES.
A WEEKLY JOURNAL OF
MEDICAL AND SURGICAL SCIENCE.

The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.

We invite contributions, reports of cases, notes and queries, medical news, and whatever may tend to increase the value of our pages.

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SATURDAY, MAY 9, 1874.

EDITORIAL.

THE CENTENNIAL.

THE papers teem with editorials, telegrams, extracts, concerning that absorbing topic the Centennial. Congress and the Centennial, Councils and the Centennial, the ladies, the workingmen, the business men and the Centennial, are the order of the day; and to these we would add a thought concerning that interesting being, the busy practitioner, and the Centennial. What are his relations to it, and its to him? Will he be better for it, or worse? Will he have much to do with it, indeed? For the busy practitioner is a being on whom the agitations of the day make little impression. Thrones crumble, republics are convulsed, epidemics rage, conflagrations devastate, yet the busy practitioner pursues the even tenor of his way. Gala-days and days of rest find him alike jogging on his rounds. The revolutions which stir his soul are those of medical science. If politics engage him, he ceases to be the busy practitioner, and becomes a nondescript; yet he takes a thoughtful interest in everything that concerns his world. The theme that interests his clients awakes an answering interest in him. As he reads, if he gets the chance, his daily paper, he must be asking himself to-day what is the Centennial to him. We answer for him, much and little. He helps to pay for it; perchance it diverts also the capital which would find its truest uses in settling his long-standing claims. Yet it bids fair to stimulate business, and other claims may be met more promptly. The Centennial will crowd the city in the sickly season of the year, and busier will be those busy practitioners who know the entrances to our large hotels, whilst the less fortunate may glean a few fees from the comparatively barren fields of the boarding-houses. The long sunny stretch to George's Hill will yield its quota of over-heated foreigners; the long round of sight-seeing, of overtaxed and over-wearied bodies and minds; and if the whilom exotic, the American drink, blossom more fully in native soil, then may we look for multitudinous mania-a-potu and teeming delirium tremens. But we wot that the average busy practitioner will long for none of these things, the public opinion notwithstanding. His soul rather thirsts for the quiet summer, when the great houses are deserted, and children's excursions keep the poor off the sick-list, when he can by snatching a week from the fifty-two be happy in the country or at the sea-side, and forget the remorseless year, till it seizes him again and chains him in the treadmill of his daily rounds.

But we must make our show in the Centennial. We cannot exhibit to the world our truest work, our successes or our failures; but the inventions we claim as ours, the mechanical appliances, the instruments to facilitate research,—these, our instrument-makers, inspired by us, will set before the visitors. Perchance the College of Physicians might be moved to place beneath the great Memorial dome that marvel of art, the plaster model of the Siamese Twins from the waist upwards, that memento of an unrivalled duplicity which has cost the College so dear. What portion of the globe of Europe, Asia, or Africa could produce the equal of that unique, mysterious figure?

The inventive American mind, before which impossibilities are but incentives to performance, spurred by the coming Centennial, could devise, if it willed, in the two years before it, new apparatus, new remedies, new operations enough to astonish Europe. It could fill the great Memorial building with new medical literature—Heaven help the readers!—and call up new diseases from the vasty deep, and diagnose and treat them for the edification of a shuddering world. But enough; let us all be up and doing, and perchance on some sultry July day of 1876 we may see the jaded, fly-bitten horse of the busy practitioner slowly jogging towards George's Hill to catch a chance hour or two for its owner to wander amid the curiosities that America has gathered together to play with for a little, till the toys are old and broken and the child of a hundred summers is tired of play.

THE IDENTIFICATION OF THE REMAINS OF DR. LIVINGSTONE.

THE hold that the superstition of burial has upon the English race, and the probabilities cremation has of becoming popular, seem to us to be plainly outlined in the excitement in regard to the recovery of the body of the great African traveller and philanthropist. To us the one important point has been the recovery of his diaries and other papers and records. Yet we hear very little about this, although the newspaper press has teemed with particulars concerning the body. When the latter reached England, the question of its identification was of course an important one. As the readers of "Livingstone's Travels" will remember, some years ago he was seized by an infuriated dying lion, and his left arm very much lacerated, the bone being crushed to splinters: from these wounds he recovered with an ununited fracture. Dr. Livingstone had during life consulted very freely Sir William Fergusson concerning this arm, and to him were intrusted the examination and identification of the body. In his report he says, *inter alia:*

"From what I have seen I am much impressed with the ingenious manner in which those who have contrived to secure that the body should be carried through the long distance from where Livingstone died until it could reach a place where transit was comparatively easy, accomplished their task. The lower limbs were so severed from the trunk that the length of the bulk of package was reduced to a little over four feet. The soft tissues seem to have been removed to a great extent from the bones, and these latter were so disposed that by doubling and otherwise the shortening was accomplished. The abdominal viscera were absent, and so were those of the chest, including, of course, heart and lungs. There had been made a large opening in front of the abdomen, and through that the native operators had ingeniously contrived to remove the contents of the chest as well as of the abdomen. The skin over chest, sternum, and ribs had been untouched.

"Before these points could be clearly ascertained, some coarse tapes had to be loosened, which set free some rough linen material—a striped colored bit of cotton cloth, such as might have been an attractive material for the natives among whom Livingstone travelled, —a coarse cotton shirt, which doubtless belonged to the traveller's scanty wardrobe, and in particular a large portion of the bark of a tree, which had formed the principal part of the package,—the case thereof, no doubt. The skin of the trunk, from the pelvis to the crown of the head, had been untouched. Everywhere was that shrivelling which might have been expected after salting, baking in the sun, and eleven months of time. The features of the face could not be recognized. The hair on the scalp was plentiful, and much longer than he wore it when last in England. A moustache could not be recognized, but whiskers were in abundance. The forehead was in shape such as we are familiar with from memory, and from the pictures and busts now extant. The circumference of the cranium, from the occiput to the brow, was twenty-three and seven-eighths inches, which was recognized by some present to be in accordance with such measurements when alive.

"In particular the arms attracted attention. They lay as if placed in ordinary fashion, each down by the side. The skin and tissues under were on each side shrunk almost to a skeleton bulk, and at a glance to practised eyes—there were five, I may say six, professional men present—the state of the left arm was such as to convince every one present who had examined it during life, that the limb was Livingstone's. Exactly in the region of the attachment of the deltoid to the humerus there were the indications of an oblique fracture. On moving the arm there were the indications of the ununited fracture. A closer investigation and dissection displayed the false joint, which had long ago been so well recognized by those who had examined the arm in former days. Thousands of heads with a like large circumference might have been under similar scrutiny; the skeletons of hundreds of thousands might have been so; the humerus in each might have been perfect; if one or both had been broken during life it would have united again in such a manner that a tyro could easily have detected the peculiarity. The condition of ununited fracture in this locality is exceedingly rare. I say this from my professional experience; and that such a specimen should have turned up in London from the centre of Africa, excepting in the body of Dr. Livingstone, where it was known by competent authorities to have existed, is beyond human credibility. It must not be supposed by those who are not professionally acquainted with this kind of lesion—which often causes so much interest to the practical surgeon—that a fracture and new joint of the kind now referred to could have been of recent date or made for a purpose."

CORRESPONDENCE.

SLOWTOWN, April 25, 1874.

MY DEAR SIR,—Perhaps you do not know our town,—I beg its pardon, our city; it is not so big a place as it seems, but it delights in two medical colleges. Once, a good while ago, we were foremost in trade and even in literature; but nowadays we have lived to see the trade run away, and to find ourselves reduced to one poet, and he absent in Europe. But then we have still two schools of medicine, which you know make us a medical centre,—*the* medical centre, we like to call ourselves. The mode of management of these schools is interesting; and, as I hear you are rather discontented about yours, you might like to know how we do it. The managers are chosen chiefly, I may say solely, with reference to their knowledge of medicine; one of the school boards having no medical men, but being made up of retired politicians, bankers,

judges, and lawyers, in and out of work. All of them, however, have, in their time, paid doctors' bills; the judges have heard, and the lawyers examined, medical experts, who have been called upon to testify in murder cases, also; the bankers have furnished letters of credit to doctors who were going to Europe: so that you see they are thus, in one way or another, educated into entire fitness to make a correct choice. I ought to add that the charter provides that in the year 1900 one-half of the trustees shall be elected by the alumni. This is a far-seeing and wise provision, because it is well known that as yet physicians are incapable of knowing who can lecture or who cannot, who has written original papers and who has not; whereas it is earnestly hoped that by the year 1900 they will have come to know as much about it as do lawyers, judges, or ex-politicians. There is, in regard to elections, a very good rule, or set of rules. The persons who elect are called trustees, which is supposed to be remotely derived from the word trusty; in other terms, trustee is a corruption of the word trusty, and is one of those absurd derivatives of which the dictionaries make so much. They are bound by an oath to choose the best man, which, of course, prevents them from pledging themselves, since it might chance that the best man, or a better, might turn up at the last minute. They collect the opinions of prominent medical men, go and hear the candidates lecture, and thus discriminately reach a choice. Unfettered, however, by such narrow means of judging, they are also open to other and larger influences.

Perhaps it may be well to illustrate this by the ways of the lower creatures known as candidates. These engage in what is called a canvass, which the dictionaries define as a coarse material intended to catch the wind. Each candidate sends all of his friends to call on every trustee. If ten thousand persons call on a trustee, he is obliged by law to vote as they wish. If you are a candidate, and are wise, you ask your grandmother to ask somebody else's grandmother to ask her aunt to get her clergyman to see Mr. So-and-so and to get him to ask his grandmother to request her grandmother to ask Mr. B. to vote for Dr. Q. This is called influence, and whichever fellow has most grandmothers gets the place.

If you do not use this method in Philadelphia, I respectfully suggest its immediate adoption.

Yours,

LANCET.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 26, 1874.

THE PRESIDENT, DR. WM. PEPPER, in the chair.

DR. J. EWING MEARS presented specimens of *mammary cancer* removed from a patient aged 46 years. The portions exhibited were removed at the third operation which Dr. Mears had performed upon the patient. At the time of the first operation the entire gland was excised. In a year from this date the disease reappeared in the cicatrix, and two small masses were removed, one of which had undergone ulceration. Eight months following the second operation three nodules of cancerous tissue were excised, the development and growth of these having been very rapid. After the third operation the patient was attacked with pleuro-pneumonia, which terminated fatally in a few days.

In presenting these specimens to the Society, Dr. Mears desired to direct the attention of the members to a method of treatment which had been pursued in this case, and to exhibit the results as shown in the specimens. A short time prior to the first operation, and after the full development of the tumor, the patient was examined by Dr. Washington L. Atlee, in consultation, at whose suggestion the administration of *arsenic* was commenced. The form employed was the officinal liquor potassii arsenitis, which was given in *two*-drop doses. The medicine was administered without interruption from the time of the first operation until the second,—a period of one year. During this time the patient's general health was remarkably good. There appeared to be an entire absence of that condition designated the "cancerous cachexia." Her appetite was not at all interfered with, and there was no loss of flesh or strength. The return of the cancerous growths in the cicatrix was unattended by pain, from which she had suffered severely during the development of the primary tumor. The portions removed at the second operation were submitted to a careful microscopical examination by Dr. Tyson, and pronounced by him to be specimens of scirrhus. He noted an extreme degree of fatty degeneration in the cells of the structure,—nothing to indicate any impression made upon this secondary growth by the long-continued use of the arsenic.

A good recovery followed the operation, and the patient was again placed upon the arsenic; in five months *three* small masses were observed, one occupying the site of the cicatrix, one about two inches above, and one about one inch below it.

The patient's health was not so good after as before the operation; her strength began to fail, and in other ways she manifested a decline of her former good health. The stomach was not affected by the use of the drug, so far as could be observed. It seems proper to ask that the specimens removed at the third operation should be referred to the Committee on Morbid Growths, for their examination. If these are found to be specimens of scirrhus, the conclusion is inevitable that in this case the remedy was ineffectual in modifying the character of the growth.

The test was made under the most favorable circumstances; the social condition of the patient was such that all directions were strictly enforced; the arsenic was taken regularly and without intermission. The specimens as removed have been submitted to careful microscopic examination, and their character definitely determined.

Dr. JOHN ASHHURST, Jr., said that he believed that, with the exception of Prof. Parker, of New York, Dr. W. L. Atlee was the only surgeon of prominence who had any faith in the value of arsenic as a remedy for cancer. Even Prof. Parker did not go so far as Dr. Atlee, who claimed that, by the timely administration of the drug in question, what he called the "cancer-cell" could be "extinguished." Dr. Ashhurst had himself seen nothing, whether in his own experience or in the published reports of others, to lead him to suppose that arsenic had any effect whatever either in preventing the development of cancer or in arresting its growth.

With regard to the absence of cachexia, as reported in the case narrated by Dr. Mears, Dr. Ashhurst said that he thought it was now generally acknowledged by practical surgeons that the term "cancerous cachexia" was a misnomer, the fact being that those patients only became cachectic in whom the disease involved important internal organs, and that the cachexia in such cases was in no degree different from that observed in other cases of a non-cancerous nature. Thus, patients died from external cancer without any development of cachexia, while those in whom the so-called "cancerous cachexia" was best marked might be found after death not to have been affected with cancer at all.

Dr. MEARS said he did not wish to be understood as claiming the influence of arsenic in preventing cachexia; on the other hand, he did not believe in the existence of cachexia in *external cancer*, nor was he satisfied from what he had thus far observed that arsenic exerted any positive influence upon cancer; he had simply brought forward this case as bearing on the subject, which was the more important, since each specimen has been submitted to careful microscopic study, by means of which the true nature of the growths had been accurately determined. He further desired to elicit the opinions of members of the Society who may have had experience in the use of arsenic in cancer. He thought the only way to arrive at a correct conclusion in reference to the therapeutic value of the agent was to adopt the plan he had pursued in this case.

The specimen was referred to the Committee on Morbid Growths, which reported on April 9 as follows:

"The mammary tumors presented by Dr. Mears have a firm, glistening white appearance upon fresh section; very little soft fluid matter can be pressed out from them. Microscopically, the tissue is composed in greater part of thick and tough fibrous bands of the interstitial connective tissue; in this structure are imbedded nests of small, epithelial-like cells, which are seen in the various stages of fatty infiltration and degeneration. At a few points of the growths a distinctly tubular arrangement of the cells could be made out, as if the cancerous infiltration had originated in the tubules of the lacteal glands. No definite conclusion could be arrived at, however, as to the starting-point of the growths, since at many places nothing but a débris of fat-granules denoted the former site of the cancerous cells. The extremely wide and dense bands of the stroma crossing each other in every possible direction, and the almost complete fatty metamorphosis and absorption of the cellular structure, lead your committee to designate these nodules as retracting cicatrizing fibrous carcinoma,—the scirrhus proper."

The PRESIDENT presented a *portion of the thoracic wall from a case in which paracentesis had been successfully performed eighteen months before death.* There had been but little return of effusion, though the signs of plastic exudation and thickening of the pleura continued. Death resulted from chronic ulceration of the colon, in connection with granular kidneys. The point of puncture was in the sixth right intercostal space, about on the line of the anterior border of the axilla. The wound in the skin was visible as a minute white scar. There was no adhesion between the skin and intercostal tissues. The point of puncture on the pleural surface appeared as a minute round hole, one-eighth of an inch in diameter, with dark, discolored walls. The two layers of pleura were very dense, thick, and tightly adherent over the antero-lateral part of the chest. There was no adhesion directly beneath the point of puncture. The changes in the pleura did not seem specially marked in this neighborhood. The case is reported at length in a paper on the "Operative Treatment of Pleural Effusions," read before the Philadelphia County Medical Society on March 25, 1874, and published in the *Phil. Med. Times.*

Dr. JOHN ASHHURST, Jr., asked Dr. Pepper what his experience had taught him was the best position for the operation.

Dr. PEPPER replied that, in his experience, the sixth or seventh interspace in the line of the anterior part of the axilla was the best adapted for the majority of cases of large pleural effusion. In very numerous instances in which he had operated at this point he had never known a single disagreeable symptom to follow.

This was the site originally recommended by Trousseau. It is always dependent, and therefore allows much fluid to escape by gravity; it is easily accessible, the walls are thin, easy of perforation, and it is easy to retain a canula in this position, permanently, if it becomes necessary.

Dr. ASHHURST said that he was glad to find that Dr. Pepper's experience upon this point in a great measure coincided with his own. He had, in tapping the chest, always employed either Bowditch's suction-apparatus or the aspirator, and had usually chosen as the place of puncture a point between the fifth and sixth, or between the sixth and seventh, ribs. Upon one occasion, on which he had adopted a lower point, he had found that towards the close of the operation a good deal of pain was caused by the diaphragm rising against the extremity of the instrument. He had not tapped as high as the fourth intercostal space, as recommended by some British writers, but considered a lower position preferable. The best line for the puncture he thought to be that of the insertion of the serratus magnus,—somewhat posterior, therefore, to that adopted by Dr. Pepper,—as here the muscular covering of the chest-wall was thinnest.

Dr. PEPPER said that the site above the fourth rib sometimes recommended was, under the guidance of Laennec, followed by Walshe and others, with the idea of imitating nature, this being the seat where spontaneous evacuation generally takes place. It appeared to him that it had been based upon false reasoning: he thought the spontaneous opening takes place here, not because it is more advantageous, but because the walls are thinner, the intercostal spaces wider, and consequently the uniform hydrostatic pressure upon the inner surface caused yielding at this point first. This site is inconvenient, because the fluid cannot readily be entirely drawn off; and it may happen that adhesions might form as low down as this point after the operation, while the remaining fluid would gravitate into the more dependent portion of the thorax, and thus require a second tapping lower down.

Dr. J. H. HUTCHINSON presented the specimens from a case of *aneurism of the arch of the aorta.* The patient from whom they were removed was an Irishman, æt. 53, and a coachman by occupation, who was admitted into the Pennsylvania Hospital February 27, 1874. His history was obtained with difficulty, but it appears that three years ago he was overcome in consequence of the inhalation of irritating gases in a chemical laboratory in which he was at that time employed. After the illness which followed this, he suffered from habitual dyspnœa. Two days before his admission he had a chill, accompanied by pains in different parts of his body, and followed by swelling of the face, neck, and upper part of the chest. Although he denied it, it was discovered that he was addicted to drink; but he had never had rheumatism. When admitted, in addition to the swelling already alluded to, he presented a marked cyanotic discoloration of the face and neck. He had some dyspnœa, and an excessively feeble radial pulse. A physical examination showed dulness on the right side of the chest, continuous with the cardiac dulness, extending two inches from the sternum, and from the second to the fifth rib. In the same position a double murmur was heard; the diastolic murmur being harsher

and of higher pitch than the systolic; these murmurs were so loud that they were heard all over the chest. A decided impulse could be felt, but at no time could a thrill be discovered. There was no dysphagia, no dropsy, and no albumen in the urine. The pulse at the wrist was weak, but perfectly regular, and no difference could be detected between the beats of any of the corresponding arteries of the body. The symptoms increased in severity from day to day, the congestion becoming more decided, and giving rise to a very œdematous condition of the upper part of the body, especially on the right side; the cutaneous veins of the chest were enormously dilated. Around the lower part of the thorax these dilatations presented an arborescent appearance, and completely surrounded the body, like a girdle. On the 10th of March, the day of the patient's death, the whole of the right side of the chest anteriorly was dull on percussion, the dulness being sharply limited laterally by a line continuous with the posterior fold of the axilla. In the dull region the breath-sounds were feeble and distant, and there was an absence of vocal fremitus. Death occurred at 11 P.M., rather suddenly.

The *autopsy* was made twelve hours after death. The rigor mortis was well marked. There was no emaciation; the veins of the upper part of the body were enlarged. The right pleural cavity in front was filled with serum and clotted blood, which had been prevented from sinking to the lowest part of the cavity by the presence of adhesions. In the median line, above the pericardial sac and partly to its right side, was a large aneurismal sac, taking its origin apparently from the commencement of the transverse portion of the arch of the aorta, about three inches above the sigmoid valves, where the walls of the artery on the right side came to an abrupt termination, presenting an appearance very much as if they had been cut with a sharp knife. The aneurism, which appeared to have begun as a dissecting aneurism, and to have become diffused not long before the fatal termination,—probably at the time when the chill occurred,—extended from the arch of the aorta to the pericardium, resting upon the diaphragm, and partially compressing the right lung. The rupture was found in the wall of the sac on the right, near its upper part. The vena cava descendens was compressed by the aneurism.

Dr. Hutchinson said that the external coat of the aorta appeared to line the whole of the aneurism except at its lower part, where it was seen to terminate by a ragged edge. He called attention to the fact that the patient, although troubled with some shortness of breath, had been able to do his work up to two weeks before his death, when the chill occurred, which was followed by the symptoms caused by pressure on the cava descendens.

Dr. Hutchinson considered the case remarkable because the other pressure-symptoms were absent. Thus, although dyspnœa had existed some time before the patient came under observation, there was no evidence that either bronchial tube was compressed. There was no dysphagia, and the pupils were of equal size, and reacted to light. He thought the most curious feature of the case was the venous girdle, which recalled in its disposition herpes zoster, but differed from this in completely surrounding the body. It made its appearance in a single night; at least, it was absent at one visit and present at the next.

The PRESIDENT asked the members whether they had ever met with this extreme cyanosis and œdema of neck and chest-walls. While they are very frequent attendants of mediastinal tumors, he had rarely found the symptoms in thoracic aneurism. He also desired to know of Dr. Hutchinson how he accounted for the symptoms of cyanosis, whether by pressure or by the presence of a coagulum obstructing some of the large veins.

Dr. HUTCHINSON replied that the cyanosis was undoubtedly owing at first to pressure upon the cava descendens, and possibly upon the right vena innominata. Later, coagulation may have taken place in the right jugular and subclavian veins, as clots were found in these vessels after death. Towards the close of the patient's life the cyanosis was not so marked as before, in consequence of the establishment of the collateral circulation. Dr. H. was also impressed by the fact that the diastolic murmur was rougher and of higher pitch than the systolic. He had diagnosticated the probable existence of aneurism, although the symptoms and physical signs, while they indicated unmistakably the presence of an intra-thoracic tumor, left the nature of this somewhat in doubt.

Dr. J. EWING MEARS said he had not examined the specimen very closely, but he thought the phenomena of pressure might be accounted for by the direction the tumor had taken, which was towards the right.

Dr. HUTCHINSON also presented an *aorta showing calcareous and atheromatous degeneration*, removed from the body of an old man, 75 years of age, who had died at the Pennsylvania Hospital with symptoms indicating obstruction to the circulation. During life no murmur was heard in any part of the chest, although a physical examination was repeatedly made; the symptoms appearing to indicate valvular disease. The man had also suffered in early life from rheumatism. A calcareous plate, an inch in length, was found in the upper wall of the arch of the aorta and in other parts of the vessel; its inner coat was the seat of extensive atheromatous changes.

Dr. H. remarked that occasionally murmurs were absent when all the physical conditions necessary for their production appeared to be present. In this case the examination of the heart was rendered difficult in consequence of the œdema of the walls of the chest, and of the existence of mucus in the bronchi, giving rise to mucous râles.

Dr. OSCAR H. ALLIS presented the larynx from a case of *pseudo-membranous laryngitis* in a child 14 months old, removed twenty-four hours after death. The child was taken suddenly ill on Sunday, March 22, about midday. It had been ailing for a few days with a slight cough, but its symptoms were hardly sufficient to attract attention. The first cause of alarm was extreme dyspnœa, simulating croup. He saw the case late in the afternoon. The child was then extremely restless, presenting every symptom of obstructed breathing,—forty respirations per minute, and with each the chest above the clavicle and below the sternum was deeply depressed. With the inspiration was a harsh and somewhat shrill or hissing sound.

The anterior nares were filled with a hardened mucus, and gave evidence of the presence of a slight catarrhal affection. The tongue was dry (the child was breathing with open mouth), and covered with dark-brown fur. The fauces and pharynx were inflamed, but there was no evidence of inflammatory deposit. There was no unusual heat of skin; no special evidence of fever, save excessive thirst. There was no pulmonary complication. The child lingered thirty hours, with no amelioration of these symptoms.

Autopsy, twenty-four hours after death. — Larynx swollen, with covering of distinct pseudo-membrane. Dyspnœa due probably to the swelling and amount of œdema, rather than to the abundance of pseudo-membrane. Membrane distinct in trachea below the cricoid cartilage, and could be easily floated off by a stream of water. Lungs healthy.

There were two circumstances prejudicial to surgical interference:

1. *The age of the child.*—This, as has been stated, was 14 months. Though few children survive the oper-

ation under four years, yet there are fourteen successful cases recorded under 24 months, and five cases under 14 months. The youngest case he had found recorded* was by Barthez, at 7 months.

2. *The surroundings.*—The child was an inmate of a "home for children," and it is needless to speak at length either of their condition at these "homes," even under the most favorable circumstances, or the privation and wretchedness from which they have been transplanted.

Dr. Allis desired an expression of opinion from the members of the Society as to the propriety of an operation in similar cases.

In an autopsy in a case of two and a half years, the membrane was found to form a complete cylindrical lining to the trachea. This was very soft, and could easily have been ejected through an artificial opening. An operation in this case might have proved instantly fatal, unless a sufficiently large opening had been made in the trachea to have permitted the easy ejection of the membrane. In two other cases, the autopsy had confirmed him in the belief that if an operation gave no better promise than of temporary relief, it were far better to run the risk than to abandon the case.

Dr. HUTCHINSON said he had seen the case in consultation, and, although he was aware that œdema of the larynx was rare in children, he thought the symptoms pointed rather to œdema than to false membrane. He had considered as pointing to this the peculiar hissing sound of inspiration, and the excessive action of the abdominal muscles. These facts, in connection with the extreme youth of the child, caused him to advise against an operation, inasmuch as recovery was very rare under four years of age. He recommended calomel in very small doses, without, however, expecting it to be of much service. The symptoms here were very similar to those of a case he had seen with Dr. John Ashhurst, Jr., in which there was œdema, and in which Dr. Ashhurst had operated with an unfortunate result.

Dr. ASHHURST said that the case to which Dr. Hutchinson had referred was one of œdema of the larynx, supervening during recovery from scarlet fever. The patient was a child about four years old, and, though almost moribund when seen by Dr. Ashhurst, Dr. Hutchinson and he thought it right to submit the question of opening the trachea to the parents, and, with their approval, to give the chance offered by the operation, which was attended with no particular difficulty, and which, though it certainly did not prolong life, yet scarcely, if at all, hastened death. With regard to the applicability of tracheotomy in cases of very young children, while Dr. Ashhurst could not endorse the rule laid down by some writers, that the operation was never justifiable in those less than four years of age, he regarded the prospects of a successful issue under such circumstances, particularly when the case was one of diphtheria or of pseudo-membranous croup, as extremely slight.

GLEANINGS FROM OUR EXCHANGES.

CANCER (*The Lancet*, March 21, 1874).—At a recent meeting of the Pathological Society of London, an interesting discussion took place on the subject of the origin and nature of cancer. Sir James Paget said that all that we see in the life of cancer naturally leads to the belief that the disease must from the first be more than a mere local tissue-change, and maintained the view that, though local in its origin, there is in some, possibly in all, cases a predisposition to the disease which may be distributed through the system, but much more probably has its seat in some among the tissues of the body. We must hold both a local and a constitutional element as a necessary condition in every or nearly every case of cancer that comes under our observation. In the long group of diseases which we call cancers, there may be at one end diseases in which it is hard to discern any constitutional element at all, and at the other end, diseases in which the constitutional element far predominates over anything that we can suppose to belong to locality. We cannot overestimate the importance of inheritance in the origination of cancer, and it is not possible to conceive of the origin of cancer, or of any disease of the like kind, except by inheritance. In about one in three of all patients with cancer, the occurrence of the same disease in other members of the family is well known, and this number does not nearly represent what we may safely assume to be the predominance of inheritance in cancer. Of course, local diseases are also inherited, as in the cases of fatty or cartilaginous tumors, cutaneous cysts, malformations, etc.; but the contrast between inheritance of a local disease and inheritance of a constitutional one is very striking. When a local disease is inherited, it passes from progenitor to offspring in the same tissue, if not in the same place: we do not find cutaneous cysts growing in the stomach or testes of the offspring of those that have had them on their scalps. On the other hand, the transmission of cancer by inheritance accords perfectly with what we see in other constitutional diseases, as gout, syphilis, tuberculosis, and scrofula, the locality in each person being determined by some other circumstance than hereditary influence, which merely supplies the predisposition to the disease.

Next, if we watch the effects of injury in the production of cancer, we see very notably that it follows the same rule as it does in the production of others which we call constitutional diseases. Cancer sometimes appears, as the expression is, of itself; there is apparently so little provocation of it that we trace nothing that we can call an exciting cause. But in a very large number of cases it follows injury, and sometimes it follows so quickly that it is impossible to disconnect it from the changes which the injury has produced. Now, we know what is the limit of changes of structure which can be produced by injury in any person of sound constitution. The ordinary processes of repair, and the ordinary changes into which they may deviate without any constitutional condition being present, are as well known as are the ordinary changes of nutrition; and when, after injury, there is a deviation from these ordinary changes, we seldom or never entertain a question but that it is due to some constitutional defect in the person in whom it occurs.

This, therefore, is a second reason for maintaining in its fullest force the power of the constitutional element in cancer. Again, the same element is strongly marked in the constancy and in the method of its recurrence after operation or after complete excision. In ordinary typical cancer of the breast or any other part which is its frequent seat, the number of cases in which it does not recur is not more than one in five hundred, while not more than one in five hundred of the ordinary non-cancerous tumors ever reappears.

In the case of the so-called recurrent tumors, tumors which seem to stand between the cancerous and the non-cancerous, the very large majority reappear again, time after time. In one case such a tumor was removed eighteen times; but in the whole history of the surgery of cancers there is not a single case in which a cancerous mass was removed from the same part eighteen, or even eight, times, without the production of similar disease in the lymphatics and in the other organs.

* Meigs and Pepper, "Diseases of Children."

This recurrence has been referred to the mobility of cells, to their readiness to pass from one part to another; but in osteoid or scirrhous cancer the mass is very hard and dense, yet the disease is almost invariably propagated, while recurrent fibroid or cartilaginous growths are as soft, and are composed of cells and free nuclei as little held together, as in any of the softest forms of cancer, but do not, except in rare cases, propagate themselves.

Cancer is probably a blood-disease, because, as a constitutional disease, it is necessary to admit that it is all-pervading; and of the few tissues which are found in all parts of the body the blood is the one which, by analogy, we would expect to find the subject of disease. The objections which have been advanced to this theory are that a person may be cancerous and yet seem to enjoy perfect health; that in cancerous persons injuries may be inflicted and yet no cancerous change ensue; and that long intervals of health frequently exist between the removal of a cancer and the reappearance of another. All these objections, however, would apply equally to gout, syphilis, scrofula or tuberculosis, and all other constitutional diseases. It has been asked, how is it that, if there be the morbid blood in cancer, it should be more frequent in the female than in the male? This is easily answered. Cancer is eminently a disease of degenerated tissues. We are wholly misled if we suppose that cancer is a disease of healthy persons, whether by local degeneracy or general; it is essentially a disease of degeneracy, and increases in frequency in proportion to the number of persons living as age goes on. And the apparent exception proves the rule; for there are in women, without any correspondences in men, two organs which enter into degeneracy, closely corresponding with the senile, at a comparatively early period of life,—the breast and the uterus; and it is the predominance of cancer in the breast and uterus that alone makes the greater frequency of cancer in the female than in the male.

The great importance of considering cancer as a constitutional disease lies in the fact that, if we have any hope at all of curing it, it must be by constitutional remedies, as we have failed to cure it as a local disease for centuries past, and in hundreds of thousands of cases. We must hope that some day there may come to us a remedy as little expected, but not less sure, than was the employment of mercury in syphilis.

Mr. Arnott said that in relation to the manner of inheritance of cancer as compared with local diseases, as fatty, bony, or cartilaginous tumors, the difference exists because the latter are, for the most part, hypertrophies of a single tissue, and are not heterologous formations.

Sir James Paget had asked why we did not find a local recurrence in cancer as in those tumors which are called recurrent; and asserted that it was not anything in the physical attributes of the tumor, because scirrhous and osteoid cancers, which are excessively hard, are constantly and diffusely propagated. It may be said in reply that it is not the gross hardness or softness of a tumor which determines its diffusibility, but it is the distribution of its elements. We find that the mobility of the elements of a tumor stands in direct ratio to its malignancy, other conditions being the same. Thus, in glioma of the eyeball the cells are united only by a very diffluent creamy fluid, and accordingly we find that of all tumors glioma is one of the most malignant. In scirrhous carcinoma the cells lie loose and detached from one another, while in the recurrent tumor the cells are bound together by a grumous intercellular material, and therefore we do not find this latter tumor nearly so malignant as cancer, never affecting the lymphatic glands, seldom affecting distant parts of the system. So with other tumors. The *position* of tumors affects to a large extent their malignancy.

In proportion as that position is subjected to the conditions of warmth, of moisture, of great vascular supply, of free lymphatic connections, and of occasional exalted functional activity, do we find that the tumor is likely to be malignant. Admitting to the full that there is a constitutional something underlying the local appearances of cancer, we must admit at the same time that there is a similar or a somewhat analogous constitutional something underlying the simplest tumor; and if, by bearing this fact in mind, and taking into consideration with it the anatomical peculiarities of tumors, we are able to say that such a one should be malignant because of its anatomical peculiarities, or of its position, and that another will be innocent because of its anatomical peculiarities and position, then we need not be driven to search for any hypothesis of a blood-disease in the sense of syphilis or gout.

Sir Wm. Gull said that in dealing practically with malignant disease we may regard it as a local condition of the tissue then and there, however much the local development of it may have had to do with some inherited predisposition which we may properly term constitutional. If we could investigate the first beginning of cancerous change, and could take away the part, we should for the time rid our patient of the cancerous tendency in the particular part or place. Clinical observation shows that cases of operation in the eye, where defective vision is almost immediately recognized, have longer immunity from secondary cancer than cases of operation elsewhere.

Dr. Payne said that he supposed all persons were agreed in describing a growth as cancer when, whatever its minute character might be, it had already begun to infect or infiltrate a neighboring part. This infection or infiltration means that a change, or growth, or something which began in one tissue, has passed over from that part in which it originally began, to another which is adjacent to it and not of the same kind. Anatomically, one can give no better definition of cancer than that there is a kind of duality in its structure; that one part of the structure, looked at anatomically, is of one kind, and another part is at all events different, whether actually of another kind or not—another kind essentially. At all events, it is different in some respects. Now, this simple fact means that when any disease or change has once bridged over that very narrow but very important interval which separates tissues of one kind from tissues of another kind, it is almost as good as if it had already spread all over the body, because there is no longer in the whole course of its transmission through the body any barrier nearly so complete and incapable of being crossed as that which it has already passed.

A Lusus Naturæ (*Ohio Medical and Surgical Reporter*, January and March, 1874).—Dr. U. L. Huyette reports the case of a child born with a fluctuating tumor on its lumbo-sacral region, which was extirpated a few weeks after birth. Attached to the body of the child, with a perfect vascular and nervous connection, were a foot, leg, and thigh. The foot had three toes, with nails perfect, and on the thigh was a covering of down. The whole member measured about three and a half inches. There were also the rudiment of a hand, a small placenta, and three distinct sacs, which, together with the tumor proper, contained a fluid resembling the liquor amnii.

Rupture of the Heart from Concussion (*Indian Medical Gazette*).—A man, æt. 28 years, was struck with the end of a *lathee* on the left breast, and died about two hours afterwards. There was no external mark of violence, but the cavity of the pericardium was completely filled with coagulated blood, and a fissure was found to exist in the wall of the left ventricle.

MISCELLANY.

LAUGHTER AS A MEDICINE.—A short time since, two individuals were lying in one room, very sick, one with brain-fever, and the other with an aggravated case of the mumps. They were so low that watchers were needed every night, and it was thought doubtful if the one sick of fever could recover. A gentleman was engaged to watch over-night, his duty being to wake the nurse whenever it became necessary to administer medicine. In the course of the night both watcher and nurse fell asleep. The man with the mumps lay watching the clock, and saw that it was time to give the fever-patient his potion. He was unable to speak aloud, or to move any portion of his body except his arms, but, seizing a pillow, he managed to strike the watcher in the face with it. Thus suddenly awakened, the watcher sprang from his seat, falling to the floor, and awakened both the nurse and the fever-patient. The incident struck the sick men as very ludicrous, and they laughed heartily at it for some fifteen or twenty minutes. When the doctor came in the morning he found his patients vastly improved, and said he never knew so sudden a turn for the better; now both are up and well. Who says laughter is not the best of medicines? And this reminds the writer of another case. A gentleman was suffering from an ulceration in the throat, which at length became so swollen that his life was despaired of. His household came to his bedside to bid him farewell. Each individual shook hands with the dying man, and then went away weeping. Last of all came a pet ape, and, shaking the man's hand, went away also with its hands over its eyes. It was so ludicrous a sight that the patient was forced to laugh, and laughed so heartily that the ulcer broke, and his life was saved.—*The Sanitarian, for May.*

LIQUID GLUE.—*Colle liquide et inaltérable* is made by taking one kilogramme of glue, and dissolving it in one litre of water, in a glazed pot over a gentle fire, or, what is better, in the warm-bath, stirring it from time to time. When all the glue is melted, 200 grm. of nitric acid (spec. grav. 1.32) are to be poured in, in small quantities at a time. This addition produces an effervescence, owing to the disengagement of hyponitrous acid. When all the acid is added, the vessel is to be taken from the fire and left to cool. I have kept the glue, thus prepared, in an open vessel during more than two years, without its undergoing any change. It is very convenient in chemical operations; I use it with advantage in my laboratory for the preservation of various gases, by covering strips of linen with it.—Writer in *Comptes-Rendus* (1852), *Chemical Gazette.*

CREMATION OF THE DEAD.—The Communal Council of Vienna has adopted, by a large majority, the proposal of one of its members to establish in the cemetery the necessary apparatus for cremation, the use of which will be optional and open to all. A similar proposition is now being agitated at Grätz, which contains a population of 100,000.

ERICHSEN ON THE ELASTIC LIGATURE.—In a letter to the *Medical Times and Gazette*, Mr. John Erichsen characterizes the use of Prof. Dittel's elastic ligature as "simply a return to mediæval barbarism."—*New York Medical Journal.*

NOTES AND QUERIES.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

IN two cases of advanced phthisis pulmonalis, I transfused about four ounces of lamb's blood, each time from a living three-months-old lamb. The syringe used was the modification of Aveling's Transfusion Syringe. Messrs. Tiemann & Co., New York, are getting up a syringe for me after the pattern of Dr. Hasse, Nordhausen, Germany, and which the latter uses only for transfusion of lamb's blood. The cases are so far benefited, but, being only two weeks old, it would be premature to give an opinion. I shall at some future time give a detailed article on the subject, and would recommend to your readers "Die Transfusion des Blutes," by Dr. Franz Gesellius, and "Die Lamm-blut Transfusion beim Menschen," by Dr. Oscar Hasse, Nordhausen.

The latter author has already transfused in thirty-seven cases, with decided success.

Very respectfully yours,
CARL PROEGLER, M.D.

ADDISON, ILL., 25th April, 1874.

GENERAL ORDERS No. 29.

WAR DEPARTMENT,
ADJUTANT-GENERAL'S OFFICE,
WASHINGTON, April 8, 1874.

The following Joint Resolution of Congress is published for the information and government of all concerned:

"JOINT RESOLUTION authorizing the Secretary of War to detail a medical officer of the Army to inquire into, and to report upon, the causes of epidemic cholera.

"WHEREAS, epidemic cholera prevailed during the year eighteen hundred and seventy-three in various parts of the United States, especially in the valley of the Mississippi, causing a deplorable mortality; and whereas it is highly important that, whenever such epidemics occur, the facts concerning the spread of the disease and its mode of propagation should be ascertained as fully as possible, with a view to the prevention or limitation of future outbreaks; therefore

"*Resolved, by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Secretary of War be, and he is hereby, authorized and directed to detail one medical officer of the Army, who shall, during the present year, under the direction of the Surgeon-General of the Army, in connection with the supervising-surgeon of marine hospitals, acting under the direction of the Secretary of the Treasury, visit the towns at which cholera prevailed during eighteen hundred and seventy-three, or such of them as in the opinion of the Surgeon-General and Secretary of the Treasury may be necessary, confer with the health authorities and resident physicians of such towns, and collect, so far as possible, all facts of importance with regard to such epidemic, and shall make a detailed report of the information collected on or before the first day of January, eighteen hundred and seventy-five, to the President, to be submitted to Congress. And the Surgeon-General is hereby authorized and directed to report to the Secretary of War, for publication, such information on the subject as he may have, or shall obtain."

Approved March 25, 1874.

By order of the Secretary of War:

E. D. TOWNSEND,
Adjutant-General.

Official:
Assistant Adjutant-General.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM APRIL 28 TO MAY 4, 1874, INCLUSIVE.

MCCLELLAN, ELY, ASSISTANT-SURGEON.—Relieved from duty at the Post of Lebanon, Ky., to enable him to comply with orders from War Department. S. O. 67, Department of the South, April 30, 1874.

GIRARD, A. C., ASSISTANT-SURGEON.—When relieved by Acting-Assistant-Surgeon Berky, U.S. Army, to comply with orders received from War Department. S. O. 66, Department of the South, April 29, 1874.